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HARTFORD ATOMIC PRODUCTS OPERATION - RICHLAND, WASHINGTON

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TITLE

MEASUREMENT OF HEAT FROM THE GRAPHITE IN A DUMMY-CHARGED KER LOOP

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AUTHOR

WK Kratzer

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1-11-60

W. A. Oldham 1/11/60
W. A. Oldham 1/15/60
W. A. Oldham 1-16/60
W. A. Oldham 2/7/60
W. A. Oldham 4/27/60
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W. K. Kratzer 12506

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This document consists of

HW 63403 RD

October 19, 1959

MEASUREMENT OF HEAT FROM THE GRAPHITE
IN A DUMMY CHARGED KER LOOP

The following data were taken to determine the amount of heat flowing into KER Loops 3 and 4 as a function of coolant temperature during equilibrium reactor operation. The loops were loaded with solid aluminum dummies which, according to estimates provided by Reactor Physics, will contribute 4-8 KW to the process tube. The loops were recirculated at reduced flow to improve the precision of the process tube coolant ΔT readings. The data are given in Table I.

W. K. Kratzer

W. K. Kratzer
Reactor Fuels Unit
Process & Reactor Development
Research & Engineering Section

WKK/klm

Classification Cancelled and Changed To

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By Authority of CG-PR-2,

W. A. Snyder, 1-1-94.

By Cheri M. Miller, 4-21-94.

Verified By McIntosh, 4-21-94

HW 63403 RD

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TABLE I

Loop 3

[illegible]

1001

		10-12-59				10-13-59											
	TIME	2245	2336	0100	0200	0300	0400	0500	0600	0700	0800	0900	1000	1100			
To Nearest	Inlet Temp. (RTD)	-100	119.8	130.5	145.1	160.1	170.5	178.9	189	196	198	199.8	201.2	202			
A. I.	Outlet Temp. (RTD)	113	135.5	151.0	159.5	176.7	183.9	186.5	201	205	209.8	211.6	213	213			
	ΔT		15.7	20.5	14.4	16.6	13.9	67.6	12.0	12.0	11.8	11.8	12.8	11			
	Flow	19.5	19.5	20.0	20.0	20.0	20.0	20	20	20	20	20	20	20			
	Eff. Pressure	1050	1100	1080	1075	1075	1075	1075	1075	1070	1070	1070	1070	1070			

1100 - Valved cooling water into #3 bank of the Primary Heat Exchanger at 1100. Low flow is valved off at Inlet only, all banks except 3 & 5.

DISCIPLE

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Under.
HW 63405 R

TABLE I (CON'T)

LOOP 3

10-13-59

	TIME	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	0100	0200
To Nearest	Inlet Temp. (RTD)	157.5	171.0	185.0	184	172	160	152	146.5	140.5	131.2	116			
.1	Outlet Temp. (RTD)	170	182.5	196.5	190	179	167	159	154.2	147.5	139.2	125			
	ΔT	12.5	11.5	11.5	6	7	7	7	7.7	7.0	8	8			
	Flow	21	21	20	40	39.5	39.5	39.5	38.8	38.5	39.8	39.8			
	Eff. Pressure	1100	1100	1100	1110	1110	1110	1110	1110	1110	1110	1110			

1315 - Routed flow around emergency storage tank.

1330 - Raised flow to 40 gpm. Had a crud burst. Started 2 gpm clean up.

1830 - Increased CU flow to 3.4 gpm Rad. still

1920 - High 1920 Increased CU flow to 3.6 Temp. Still coming down.

LOOP 4

10-13-59

	TIME	1200	1300	1400	1500	1600	1700	1800	1900	2000	2100	2200	2300	2400	0100
To Nearest	Inlet Temp. (RTD)	199	171.5	153.0	143.5	136	134	130	122	113.8	118.5	121.5	122.5		
.1	Outlet Temp. (RTD)	192	185.0	161.0	151.5	145	142	139	131	129.8	134.5	136.5	138.5		
	ΔT	13	13.5	8.0	8.0	9	8	9	9	16	16	15	16		
	Flow	20	20	40	40	40	40	40	40	19.8	20.0	19.8	19.8		
	Eff. Pressure	1050	1060	1075	1070	1070	1070	1070	1070	1060	1060	1060	1060		

1345 - Raised flow to 40 gpm

1915 - Valved in HW Bunk #5 on HE to lower temp. to 125. Reached 125 eff. temperature at 1915.

1925 - Reduced flow from 40 to 20 at 1925.

Page 5

DATE

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7/27/94

END